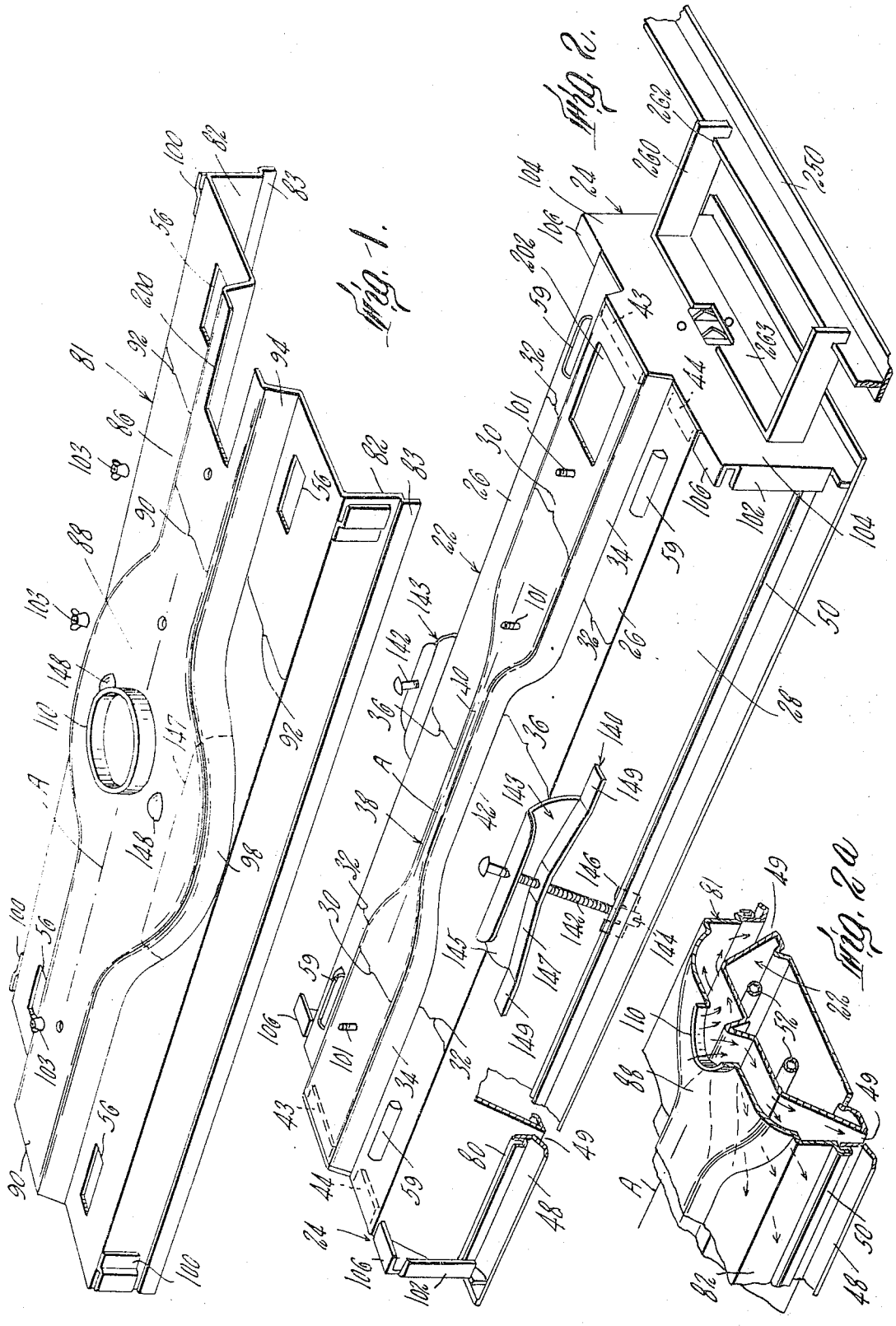
Oct. 24, 1967 M. H. KRUGER 3,348,465

LIGHTING AND VENTILATING TROFFER ASSEMBLY

Filed Nov. 20, 1964 5 Sheets-Sheet 1



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LIGHTING AND VENTILATING TROFFER ASSEMBLY

Filed Nov. 20, 1964 5 Sheets-Sheet 2

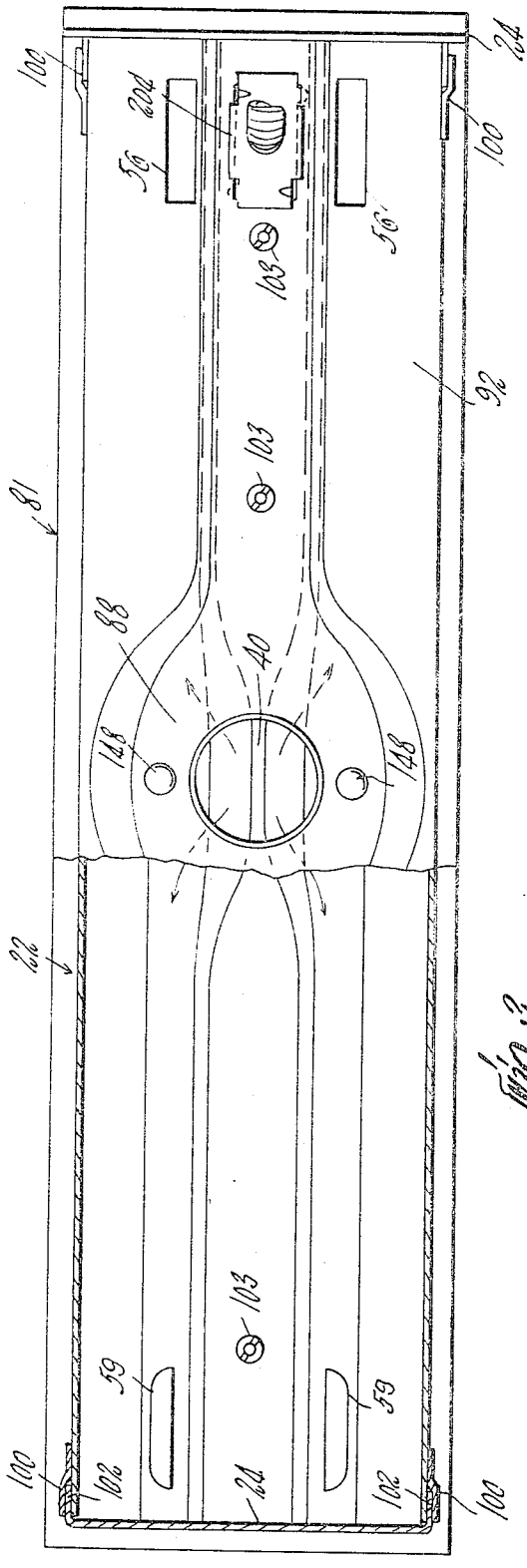


Fig. 3.

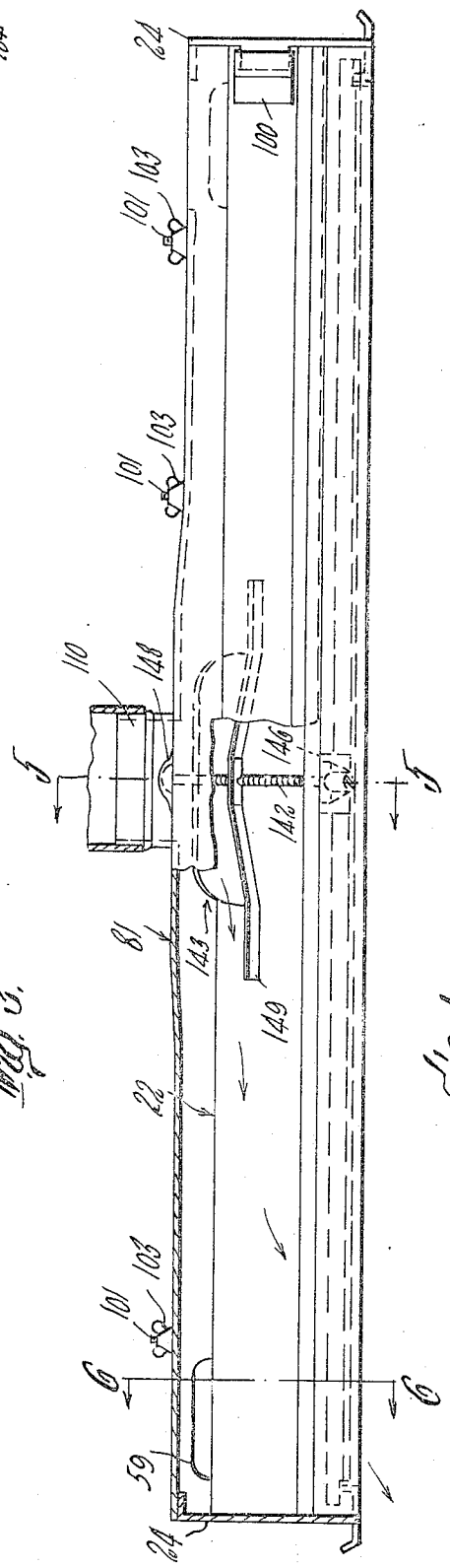


Fig. 4.

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LIGHTING AND VENTILATING TROFFER ASSEMBLY

Filed Nov. 20, 1964 5 Sheets-Sheet 3

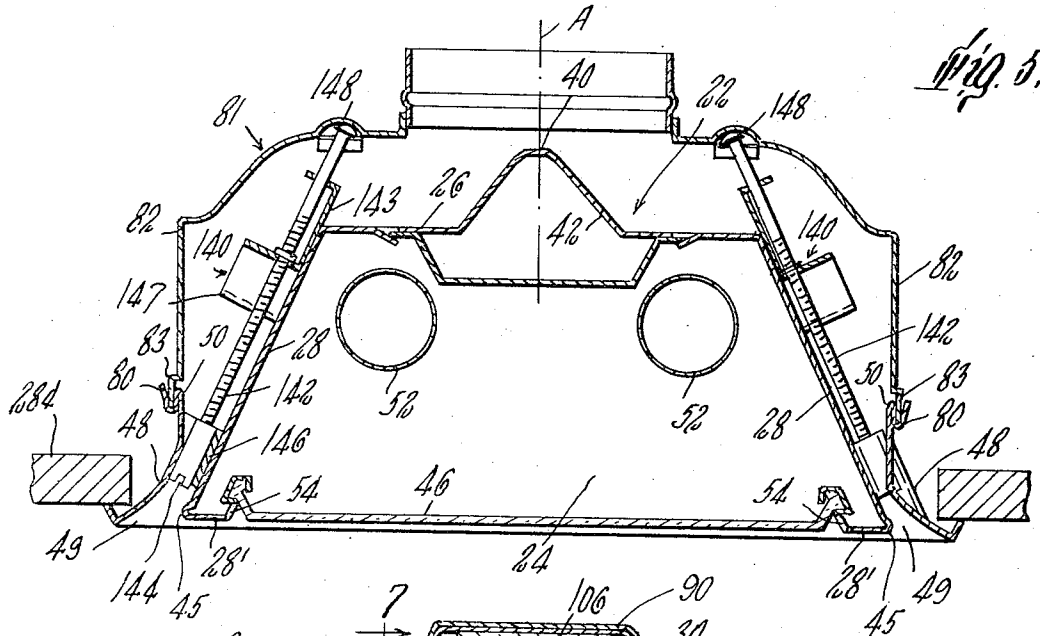


Fig. 5.

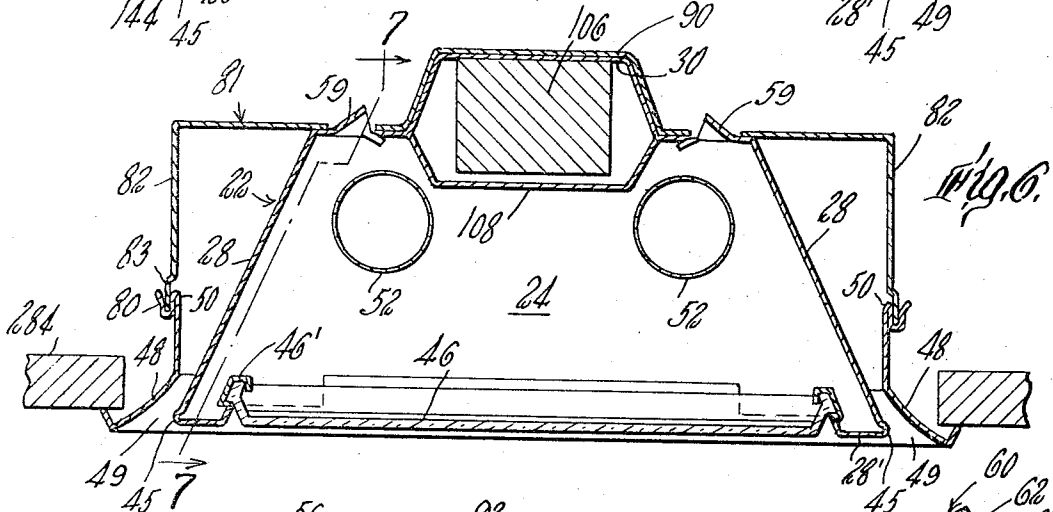


Fig. 6.

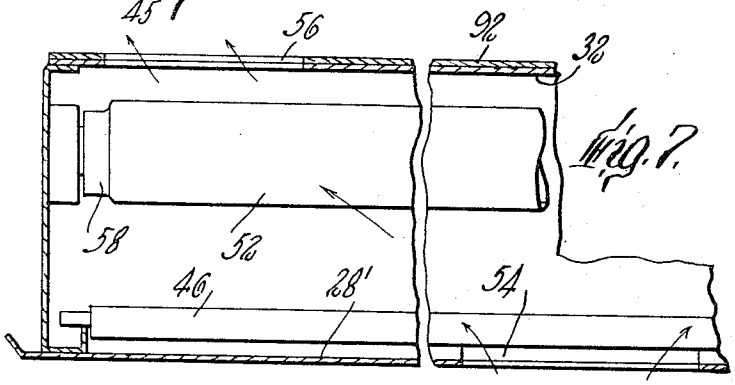


Fig. 7.

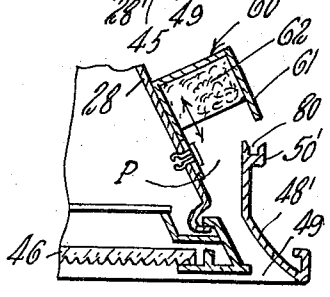


Fig. 8.

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LIGHTING AND VENTILATING TROFFER ASSEMBLY

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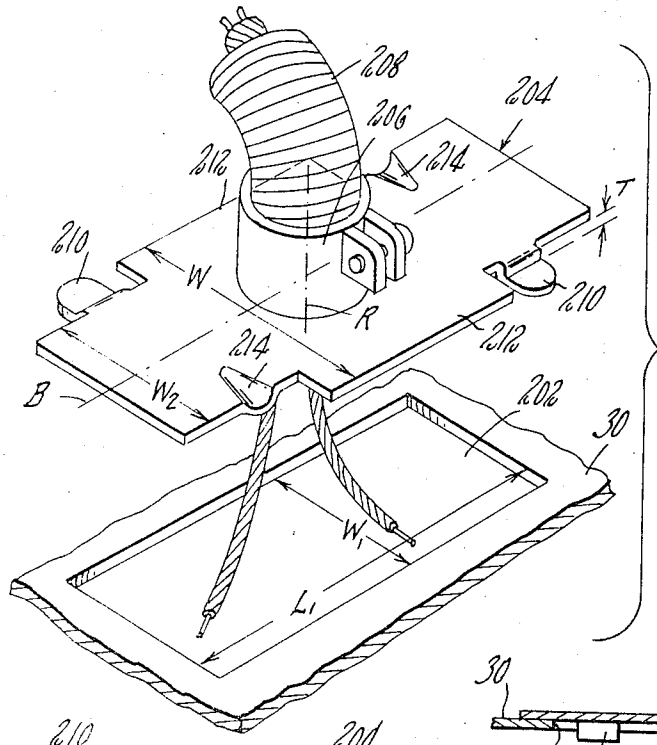


Fig. 9.

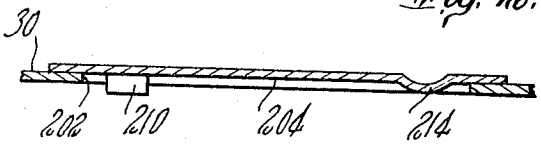


Fig. 12.

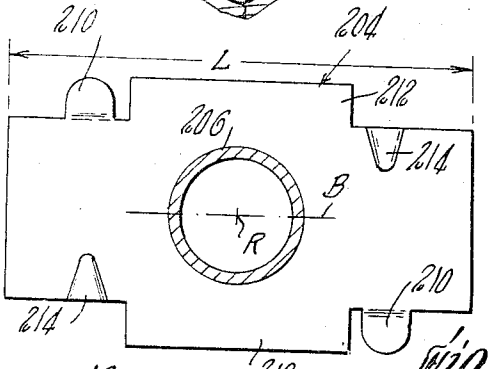


Fig. 10.

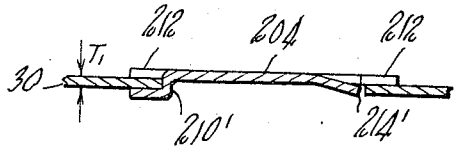


Fig. 13.

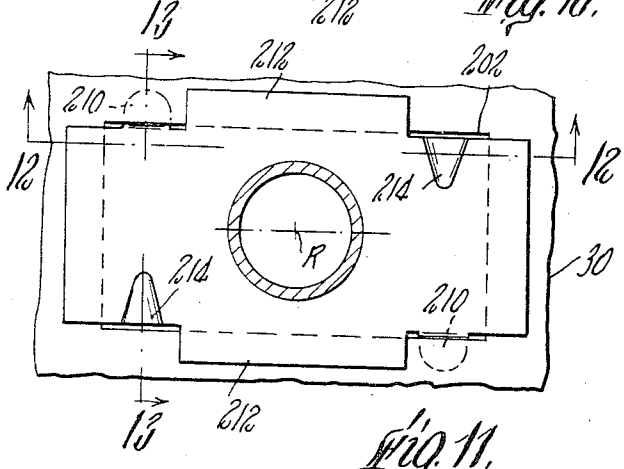


Fig. 11.

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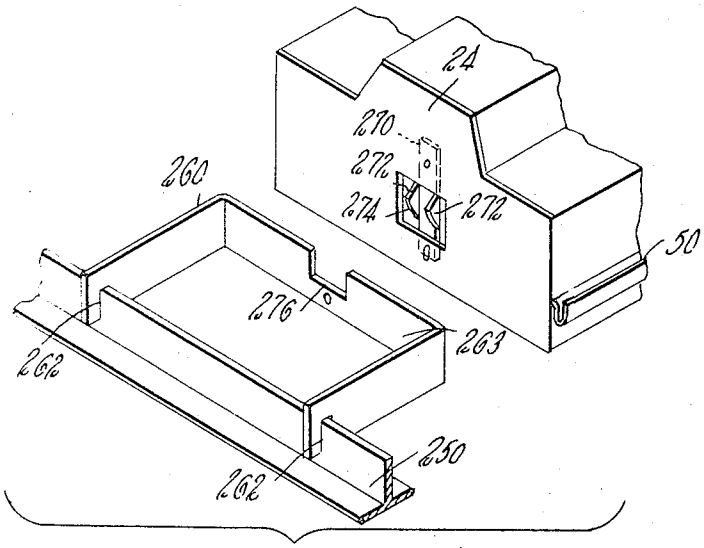


Fig. 14.

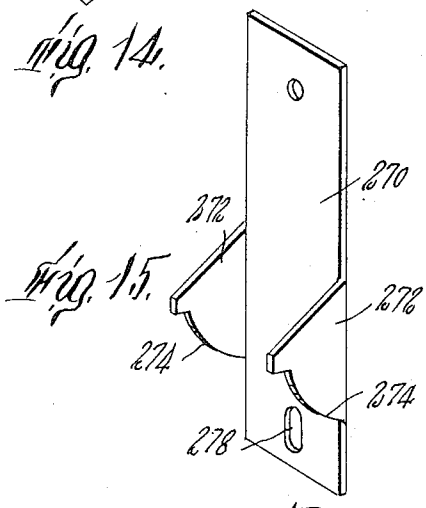


Fig. 15.

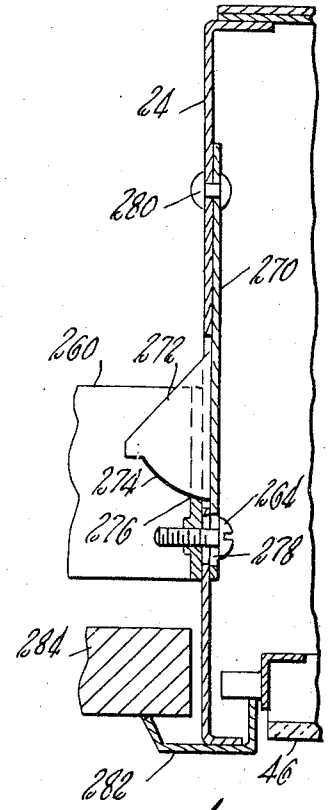


Fig. 17.

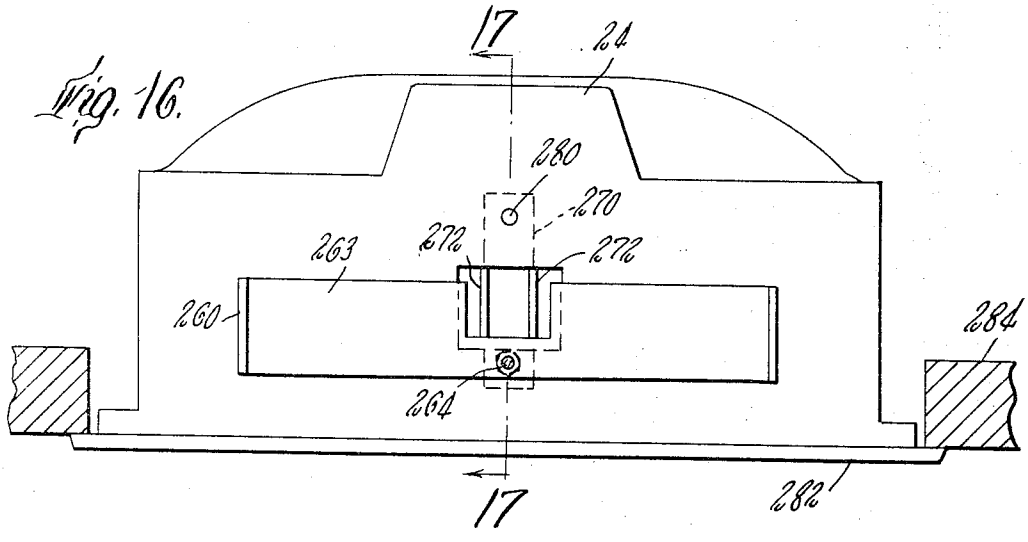


Fig. 16.

United States Patent Office 3,348,465 Patented Oct. 24, 1967

3,348,465

LIGHTING AND VENTILATING TROFFER ASSEMBLY

Michael Henry Kruger, Chestnut Hill, Mass., assignor to Smithcraft Corporation, Chelsea, Mass., a corporation of Massachusetts

Filed Nov. 20, 1964, Ser. No. 412,756
10 Claims. (Cl. 98—40)

This invention relates to lighting and ventilating.

A principal object of the invention is to provide a lighting and ventilating troffer assembly which is less expensive than those of the prior art, and another principal object of the invention is to provide such an assembly which is simpler, lighter in weight and more durable.

Another principal object of the invention is to provide lighting and ventilating units for use in combination which are capable of being formed by simple manufacturing techniques, and in particular employ die formations in sheet metal and avoid cutting and fitting to difficult shapes or the use of special sealant strips.

Another principal object of the invention is to provide a lighting and ventilation troffer assembly which achieves a marked improvement in constructional and operational efficiency. In particular it is an object to achieve a large air outlet area simultaneously with a small wall area exposed to air conditioned air; also a very short total length of joints subject to the direct pressure drop from supply to ambient pressure while still enabling efficient dissipation of ballast heat and counterflow of ambient air to prevent bulb discoloration.

It is another principal object of the invention to provide a vent housing unit which consists of a single part which can be used to modify a troffer lighting unit.

Another principal object of the invention is to provide an improved troffer lighting unit which can be modified with a housing unit to carry out both lighting and ventilating functions. It is a particular object to enable this modification to be achieved in the field by persons who are unskilled and with very simple steps employing a minimum of extra parts.

Another principal object of the invention is to provide a troffer lighting unit which has an improved aperture structure that can be used for air distribution or air intake and which enables modification of the sound and ventilating conditions in a room which the unit services.

Still another principal object of the invention is to provide troffer lighting unit accessories specially suited for the unit which enable a single basic unit to be employed in a wide variety of circumstances.

The invention will be described in connection with the drawings wherein:

FIG. 1 is a perspective view of a vent-housing according to the invention;

FIG. 2 is a perspective view of a lighting troffer member over which the vent-housing of FIG. 1 can fit;

FIG. 2*a* is a partially broken away perspective view of a lighting and ventilating troffer assembly formed by the combination of the vent-housing of FIG. 1 with the lighting troffer member of FIG. 2;

FIG. 3 is a plan view, and

FIG. 4 is a side view, partially in cross-section, of the assembly of FIG. 2*a*;

FIGS. 5 and 6 are cross-sectional views taken on lines 5—5 and 6—6 of FIG. 4 respectively;

FIG. 7 is a partially broken-away cross-sectional view taken on lines 7—7 of FIG. 6;

FIG. 8 is a cross-sectional view similar to part of FIG. 6 of an alternative embodiment of the invention;

FIG. 9 is an exploded perspective view of an accessory snap-in connecting plate for use with the embodiment of FIGS. 1–8;

FIG. 10 is a plan view of the plate of FIG. 9 and FIG. 11 is a plan view showing the plate assembled with the lighting troffer member of FIG. 2;

FIGS. 12 and 13 are cross-sectional views taken on lines 12—12 and 13—13 of FIG. 11 respectively;

FIG. 14 is an exploded view of the end bracket assembly of the embodiment of FIG. 2*a*;

FIG. 15 is a perspective view of a cam plate employed in the bracket assembly of FIG. 14;

FIG. 16 is an end view of the assembly of FIG. 14; and

FIG. 17 is a cross-sectional view taken on lines 17—17 of FIG. 16.

Referring to the preferred embodiment of the lighting unit of the invention, which is best shown in FIGS. 2, 5 and 6, the unit is defined by a main troffer member 22 and two end plates 24. The main troffer member 22 has a top wall 26 lying over the space for bulbs 52, and two side walls 28 which extend downwardly, and as in this embodiment, preferably outwardly. At the end regions of the troffer member 22 the top wall 26 is defined by axial portions 30 lying at one level and lateral portions 32 spaced laterally to the sides of the axial portions 30. Each axial portion 30 is joined to lateral portions 32 by downwardly extending walls 34 serving as transition portions.

The central part of the top wall of the troffer member is defined by two spanning portions 36 which are integral continuations of the lateral portions 32, these spanning portions extending closer to the axis A of the troffer member than the lateral portions 32. These two spanning portions 36 are joined together along the axis A by a flow divider 38. The upper surface 40 of this flow divider 38 is joined to the axial portions 30, preferably constituting a planar extension, and is joined to the spanning portions 36 by downwardly extending walls 42 which in effect are continuations of the transition walls 34. The entire top wall 26 of the troffer member 22 including the various portions just described, and the side walls 28, are preferably formed of a single piece of sheet metal. This can be accomplished by "breaking" the metal to form the various straight lines according to well-known sheet metal forming techniques, and stamping the central portion of the top wall 26 with cooperating dies to form the flow divider 38. The main troffer member is joined to the end plates 24 by, for instance, welding, the end plates providing flanges 43, 44 which extend beneath the top wall 26.

Referring to FIGS. 5 and 6 the lower portions 28′ of the walls 28 are bent inwardly and define means for supporting light transmitting panel 46, which in this embodiment has reinforced edges 46′ resting upon upwardly turned edges of lower portions 28′.

Spaced laterally outwardly from the lower portions 28′ of the walls 28 are two discrete rails 48 which are permanently secured to the troffer assembly, e.g. by the end plates 24. These rails define the outer visible portions of the unit when installed in the ceiling as can be observed from FIGS. 5 and 6. Also in FIGS. 5 and 6 can be seen the upper portion of each rail 48 which is bent or folded in double re-entrant form to define an upwardly open slot 80 which extends the full length of each rail 48.

The troffer assembly thus far described, when equipped with bulbs 52, can be mounted in a ceiling as shown in FIGS. 5 and 6 and can serve as a light fixture.

The elongated aperture 49 defined between the rail 48, or in the case of FIG. 8 the rail 48′, and the lower portion of the side wall 28 serves as an intake for air from the space below the fixture, the air passing through the aperture 49 and into the plenum cavity P above the fixture. Because more than one room is serviced by the plenum there is a tendency for noise to travel with the air through the aperture 49 into the plenum and then

back through the aperture of another fixture into another room. This tendency is avoided by use of the damper member **60** shown in FIG. 8. This member incorporates a mass **62** of sound absorbent material such as fiber glass, and is disposed across the aperture **49** so that a tortuous path is defined which absorbs the noise. Referring still to FIG. 8 the damper member **60** is slidably adjustable along wall **28** to change the size of the flow through aperture **49**, and to engage the rail **48'** in the lowest position to stop the flow. A wall **61** of the damper member is arranged to pass by the upper edge **50'** of the rail **48'** when this is done.

The upper edge **50'** of the rail **48'** in FIG. 8, which is an extrusion, is similar to the folded edge **50** of the rail **48** in FIG. 6 in defining a horizontally elongated upwardly open slot **80**. As can be seen in FIGS. 2 and 2*a* these slots extend the full length of the troffer member **22** and serve to telescopically receive the lower edges **81** of side walls **82** of the vent housing which is now to be described.

Referring to FIG. 1 as well as to FIG. 2 the vent housing **81** comprises the two side walls **82** connected by a top wall **86**. At the end regions of the housing **81** the top wall **86** is shaped correspondingly with the top wall of the troffer member **22** so that the two can nest together in face to face contact over a substantial area. More specifically, the vent housing **81**, at each end region, is provided with an elongated axial portion **90** and two elongated lateral portions **92**, the axial portion **90** joined thereto by downwardly extending walls **94** serving as transition portions.

The top wall of the vent housing **81** has a central portion **88** that is dished upwardly to define an air receiving chamber. Preferably, as shown, this portion is an upwardly stamped configuration of the same sheet of metal as that from which the side walls of the vent housing are formed. It extends laterally from the axis A a substantial difference, preferably, as shown, beyond the upper edges of the side walls **28** of the troffer member, and to the upper edges of the side walls **81** of the vent housing **81** itself.

As shown it is advantageous both for strength and for ease in stamping that the top of the stamped configuration **88** lie at the same level as the axial portions **90** of the top wall of the vent housing **81** and that downwardly extending portions **98** join the stamped configuration to the lateral portions **92**, with these downwardly extending portions **98** being continuations of the transition portions **94**, as shown in FIG. 1.

In the field, or in the factory, when it is desired to modify the lighting troffer member of FIG. 2 so as to handle ventilation air, the vent housing **81** of FIG. 1, preferably formed as a single part, is moved vertically downward upon the troffer member **22**, until the edges **83** of the side walls **82** of the vent housing **81** engage telescopically the slots **80** provided in the rails **48** of the troffer member. Simultaneously slidable end locks **100** on the vent housing **81** slidably interlock with slidable end locks **102** provided on the end plate extensions **104** of the end plates **24**. When the side wall edges **83** telescopically seat in the slots **80** of the rails, the end portions of the top walls **92** which extend outwardly beyond the troffer member seat upon flanges **106** of the end plates **24**. By means of wing nuts **103** and bolts **101**, or similar fasteners, the vent housing **81** is secured to the troffer member **22**, their nesting parts cooperating in forming a tight assembly.

Referring to FIG. 2*a* air enters through the collar **110** of the air receiving chamber formed by the stamped portion **88** and the top wall of the troffer member **22**. The rails **48** of the troffer member and its other structure position the vent housing **81** so that the flow divider **38** is aligned with the collar **110**. Thus, as shown in FIG. 2*a*, the air entering the collar **110** is divided into two air streams. These air streams spread from the point of entry as indicated diagrammatically in an efficient streamline flow and proceed through the passage defined between the walls **82** of the vent housing and the sloped walls **28** of the troffer member.

On the side walls **28** of the troffer member are positioned dampers **140**. Referring to FIGS. 2 and 4 each damper comprises a threaded bolt **142** and a damper member **143**. The lower end of the bolt **142** is slotted at **144** and is positioned by a bracket **146**. The upper end of bolt **142** is captured in an upward formation **148** in the vent housing wall. The bracket **146** and the formation **148** serve to confine the threaded bolt **142** to rotational movement.

Upon this bolt **142** is threaded the damper member **143**. This member has a side wall **145** shaped to fit against the upward formation **88** of the vent housing along dotted line **147** shown in FIG. 1. It is thus seen that by proper adjustment of the bolt **142** by a screw driver protruding through the aperture **49** defined between the rail **48** and the side wall **28** of the troffer member **22**, the damper member **143** can be moved upwardly or downwardly, it being restrained from rotational movement by the side walls **28** and **82** of the troffer member and vent housing respectively. In its upper position the damper member **143** can substantially prevent flow to the respective aperture **49**, and lower positions of the damper member correspondingly increase the flow.

Along the lower edge of the damper member **143** is a deflector member **147** having a substantially horizontal extent, and filling at least a substantial portion of the passage. The outer portions **149** of this deflector serve to direct air toward the end of the aperture **49** and thus to provide a flow throughout the length of the aperture.

The lighting and ventilating troffer assembly so far described provides means for efficiently dissipating the heat inherent with the operation of the electric bulbs in the fixture. Referring to FIG. 6 a ballast member **106** is seated in the upwardly recessed region formed by an axial portion **30** of the troffer member top wall and the similarly shaped portion **90** of the vent housing. A cover plate **108** secured to the inside of the troffer member completes the compartment for the ballast member **106**. As is well known the ballast member **106** generates a substantial amount of heat. To a large degree this heat is dissipated by conduction first through the top wall **30**, against which the ballast member bears, then directly upwardly by conduction through the top wall **90** of the vent housing from which it is removed by radiation and convection. It will be seen that, although the vent housing extends over the ballast member **106**, still air being supplied by the vent housing does not come in proximity to the ballast member, and therefore there is no detrimental exchange of heat between the ballast member and the ventilating air.

Similar advantages are obtained with air that cools the cathodes of the bulbs **52**. Referring to FIGS. 5 and 7 a cut-out **54** is provided in the central region of the lower part **28'** of the side walls **28** of the troffer member **22**. This cut-out **54** serves as a means for entry of ambient air into the troffer space. At the ends of the troffer assembly, in the region immediately above the cathodes **58** of the bulbs **52**, cut-outs **56** are provided extending both through the lateral top wall portions **32** of the troffer member and the cerresponding lateral top wall portion **92** of the vent housing. Flaps **58** integral with the troffer member extend through the cut-outs **56** in the vent housing **81** further serving to position the two parts together.

In operation the plenum cavity above the lighting fixture is exhausted and the negative pressure thus generated draws air through the cut-out **54** at the center of the assembly and thence through the cut-out **56** at the cathodes ends. Thus again it will be seen that despite the fact that the vent housing extends over the ends of the assembly, still the heat of the cathodes **58** does not transfer to the air being supplied through the vent housing. Referring

to FIGS. 1, 2 and 3 it will be seen that the openings provided by the cut-outs **56** are spaced a substantial distance from the center of the assembly where the air receiving chamber is defined, and the face to face contact between the nesting walls of the troffer member and the vent housing over this substantial distance serves to prevent loss of air from the air receiving chamber.

The deflectors **149** of the damper members **143** direct the air towards the ends of the outlet, and the lip **45** along the inner surface of the passage directs the air laterally away from the fixture. This in turn prevents short-circuiting of the air from the supply back to the openings **54** and into the lighting troffer itself.

For making electrical connections to the assembly a cut-out **200** is formed in one of the axial top wall portions **90** of the vent housing **81**. In registry an opening **202** is provided in the axial portion **30** of the top wall of the troffer member **22**. Referring to FIG. 3 a removable access plate **204** is inserted in these openings and serves to carry the electrical connections for the assembly. Referring to FIGS. 9–11 the access plate **204** has a central collar **206** which serves to clamp the armored cable **208** and to connect this cable firmly to the assembly; its other function is to permit access to the electrical connections inside the assembly without dismantling the assembly or without even removing the lens. The access plate **204** has a central part of a width W greater than the width W_1 of the opening **202** through which the connection is made. At each end, however, the access plate has a width W_2 slightly less than the width W_1 of the opening so that the end portions can fit into the opening. The excess width of the central part of the plate can be regarded as comprising flanges **212**.

The length of the access plate L is greater than the length L_1 of the opening **202**.

The access plate **204** is adapted to be secured to the troffer assembly by rotation about central axis R. For this purpose two tabs **210** are provided on the access plate **204**, one on each of the long sides of the plate, one secured to each of the two reduced end portions as shown in FIG. 10. Thus these tabs are located on opposite sides of the axis R of rotation of the plate **204**. These tabs **210** are offset downwardly a distance T as shown in FIG. 9, this distance corresponding with the thickness T_1 of the wall **30**. With this arrangement, as shown in FIG. 13, the flange portions **212** of the access plate **204** that extend beyond the dimension W_2 of the end portions of the plate can lie above the wall **30** while the tabs **210** themselves lie below the wall. The plate **204** is provided also with two downward projections **214**, here formed as indentations, located along the sides of the reduced width end portions of the plate **204**, each spaced opposite from one of the tabs. These projections **214** are located on opposite sides of the axis R of rotation of the plate **204**.

For the purposes of assembly the plate is generally aligned above the opening, and positioned so that both tabs **210** extend into the opening and below the level of the wall **30**. Then the plate is rotated about its central axis R carrying the tabs **210** under the wall **30**. Simultaneously the projections **214** press against the top surface of the wall **30** hence the plate **204** must resiliently deform as rotation progresses. When the tabs **210** reach position shown in FIG. 13 the projections **214** pass over edges of the openings and drop therein, unstressing the plate **204**, with the flanges **212** remaining on top of the wall **30**. Referring to FIG. 13 it is seen that the plate **204** is restrained from lateral movement in either direction. At one side the downward leg **210'** of the tabl **210** engages the side of the opening. On the other side the edge **214'** of the projection **214** engages the side of the opening. Similarly, referring to FIG. 12, the access plate is restrained from lengthwise removal. At each end the tab **210** and projection **214** are positioned to engage the end of the opening in the wall **30** before the other end of the plate passes by the end of the opening.

By this arrangement it is possible for the troffer assembly to be installed without the electrician ever opening the assembly. He simply can grasp the wires of the fixture itself through the registering openings **200** and **202**, connect them to the cable protruding through the access plate **204**, and then can lock the plate in place. Thereafter, when it is necessary to inspect or repair the electrical connections, this can be accomplished without even removing the vent housing, simply by having access to the plate **204** through the opening **200** in the vent housing.

Referring to FIG. 2 and to FIGS. 14–17 the means by which the lighting and ventilating troffer assembly is supported are shown. Conventional ceiling bars **250**, e.g. of inverted T-shape, are engaged by U brackets **260** which have slots **262** engaging the upstanding ribs of the ceiling bars. The base section **262** of the bracket fits against the end plate **24** of the troffer assembly and a screw **264** joins the end plate **24** to the bracket. The problem that occurs with lighting and ventilation assembly mountings is that the assembly droops a slight amount and does not seat tightly against the ceiling. For this reason it would be desirable to have a means for adjusting the height of the assembly relative to its supports to take up this final small space and provide a snug fit and pleasing appearance. According to the present invention this problem is solved by means of the cam plate **270** shown in FIG. 15. This cam plate is rigidly mounted to the end plate **24** of the assembly by rivet **280**. It has two cam members **272** extending toward the bracket **260**. These cam members have lower cam surfaces **274**. The bracket itself has a slot defining a cam follower edge **276**. The two cam members **272** fit into the slot and the cam surface **274** engages the cam follower surface **276**. An elongated screw opening **278** is provided in the cam plate **270** as well as in the end plate **24**. Accordingly, as the screw **264** draws the end plate **24** against the bracket **260**, the cam surfaces **27** ride up on the cam follower surface **276** to thereby raise the assembly relative to the bracket **260**, thus raising the lower part of the assembly **282** into a snug engagement with the ceiling **284**.

It will be understood that various details of the embodiments shown herein can be changed within the spirit and scope of the claims.

What is claimed is:

1. A lighting and ventilating troffer assembly including a troffer member having a top wall and side walls, a vent housing having a generally corresponding top wall and side walls in nesting relation to said troffer member, an electrical connection access opening in the top wall of said troffer member, a corresponding access opening in the top wall of said vent housing and a rotatably removable access plate formed of resilient material and cooperating with one of said top walls to close said opening, said plate having a main body adapted to cover substantially completely said opening, two tab means located oppositely from the center of rotation of said plate, said tab means adapted to be inserted and engage simultaneously the underside of the wall, and two projection means on said plate located oppositely from the center of rotation of said plate and spaced from said tab means, said projection means constructed and arranged to ride upon the surface of said wall and resiliently deform said plate as said tab means move to locking position, said projection means adapted to slide from said wall over edges of said opening into said opening upon terminal movement of said plate, allowing said plate to straighten, said projections cooperating with said edges of said opening over which they slide to lock said access plate against inadvertent removal.

2. A troffer assembly including a troffer member having a top wall and side walls, electrical means located within said troffer member, an opening in one of the walls of said assembly located to give access to said electrical means, and a plate member carrying wires for said elec-

trical means, said plate member being rotatably positionable, said plate having a main body adapted to cover substantially completely said opening, two tab means located oppositely from the center of rotation of said plate, said tab means adapted to be inserted and engage simultaneously the underside of the wall, and two projection means on said plate located oppositely from the center of rotation of said plate and spaced from said tab means, said projection means constructed and arranged to ride upon the surface of said wall and resiliently deform said plate as said tab means move to locking position, said projection means adapted to slide from said wall over edges of said opening into said opening upon terminal movement of said plate, allowing said plate to straighten, said projections cooperating with said edges of said opening over which they slide to lock said access plate against inadvertent removal.

3. A lighting and ventilating troffer assembly including an elongated troffer member and a superposed vent housing, said troffer member defining a space for bulbs and having a top wall lying over said space and a pair of downwardly extending horizontally elongated side walls, said vent housing having an air receiving chamber and a pair of downwardly extending, horizontally elongated side walls, each side wall of said vent housing spaced outwardly from one of said side walls of said troffer member and defining therewith a downward flow air passage having a horizontal air outlet, wherein the top and all sides of said air receiving chamber are defined by an upwardly stamped configuration in a sheet member that is integral with the side walls of said vent housing and lies over the top wall of said troffer member wherein said vent housing has at least one top wall portion that extends from said upwardly stamped configuration a substantial distance toward one of the ends of said vent housing, said top wall portion resting face to face upon a corresponding portion of the top wall of said troffer member, said face to face contact serving to prevent flow in that direction from said receiving chamber, and wherein, at a location spaced along said face to face contacting portions from said receiving chamber, openings are provided in the top walls of said troffer member and said vent housing, said openings cooperating to provide an upward passage for air from said troffer space.

4. A lighting and ventilating troffer assembly including an elongated troffer member and a superposed vent housing, said troffer member defining a space for bulbs and having a top wall lying over said space and a pair of downwardly extending horizontally elongated side walls, said vent housing having an air receiving chamber and a pair of downwardly extending, horizontally elongated side walls, each side wall of said vent housing spaced outwardly from one of said side walls of said troffer member and defining therewith a downward flow air passage having a horizontal air outlet, wherein the top and all sides of said air receiving chamber are defined by an upwardly stamped configuration in a sheet member that is integral with the side walls of said vent housing and lies over the top wall of said troffer member wherein said vent housing has at least one top wall portion that extends from said upwardly stamped configuration a substantial distance toward one of the ends of said vent housing, said top wall portion resting face to face upon a corresponding portion of the top wall of said troffer member, said face to face contact serving to prevent flow in that direction from said receiving chamber and wherein said top wall portion of said vent housing includes an elongated axial portion disposed at a level above and located between a pair of elongated lateral portions, said axial portion joined to said lateral portions by downwardly extending transition portions, the top wall of said troffer member having corresponding portions shaped to nest therewith in face to face contact preventing flow of air from said receiving chamber.

5. The troffer assembly of claim 4 wherein said upwardly stamped portion of said vent housing is integral with said axial top wall portion of said housing, said upwardly stamped portion extends laterally from the axis of said troffer a substantially greater distance than said axial end portion, said upwardly stamped portion joined to said lateral portions of said housing by downwardly extending transition portions, said transition portions constituting extensions of said downwardly extending transition portions that join said axial portion with said lateral portions.

6. A lighting and ventilating troffer assembly including an elongated troffer member and a superposed vent housing, said troffer member defining a space for bulbs and having a top wall lying over said space and a pair of downwardly extending horizontally elongated side walls, said vent housing having an air receiving chamber and a pair of downwardly extending, horizontally elongated side walls, each side wall of said vent housing spaced outwardly from one of said side walls of said troffer member and defining therewith a downward flow air passage having a horizontal air outlet, wherein the top and all sides of said air receiving chamber are defined by an upwardly stamped configuration in a sheet member that is integral with the side walls of said vent housing and lies over the top wall of said troffer member wherein said vent housing has at least one top wall portion that extends from said upwardly stamped configuration a substantial distance toward one of the ends of said vent housing, said top wall portion resting face to face upon a corresponding portion of the top wall of said troffer member, said face to face contact serving to prevent flow in that direction from said receiving chamber and wherein an electrical ballast member is located within said troffer space against the inner surface of said corresponding portion of said troffer member, the face to face contact of said top wall portion of said vent housing with said corresponding portion of said troffer member cooperating to dissipate ballast heat.

7. A lighting and ventilating troffer assembly including an elongated troffer member and a superposed vent housing, said troffer member defining a space for bulbs and having a top wall lying over said space and a pair of downwardly extending horizontally elongated side walls, said vent housing having an air receiving chamber and a pair of downwardly extending, horizontally elongated side walls, each side wall of said vent housing spaced outwardly from one of said side walls of said troffer member and defining therewith a downward flow air passage having a horizontal air outlet, wherein the top and all sides of said air receiving chamber are defined by an upwardly stamped configuration in a sheet member that is integral with the side walls of said vent housing and lies over the top wall of said troffer member wherein said vent housing has at least one top wall portion that extends from said upwardly stamped configuration a substantial distance toward one of the ends of said vent housing, said top wall portion resting face to face upon a corresponding portion of the top wall of said troffer member, said face to face contact serving to prevent flow in that direction from said receiving chamber and wherein said top wall portion of said vent housing runs to the end of said troffer assembly and has extensions that extend laterally relative to the troffer axis beyond the top wall of said troffer member, said extensions cooperating in the formation of said flow passages, the ends of said extensions supportingly engaged by flanges of an end plate forming said end of said troffer assembly.

8. A lighting and ventilating troffer assembly including an elongated troffer member and a superposed vent housing, said troffer member defining a space for bulbs and having a top wall lying over said space and a pair of downwardly extending horizontally elongated side walls, said vent housing having an air receiving chamber and a pair of downwardly extending, horizontally elongated side walls, each side wall of said vent housing spaced

outwardly from one of said side walls of said troffer member and defining therewith a downward flow air passage having a horizontal air outlet, wherein the top and all sides of said air receiving chamber are defined by an upwardly stamped configuration in a sheet member that is integral with the side walls of said vent housing and lies over the top wall of said troffer member, and wherein said troffer member has two rails rigidly joined thereto, one located outwardly of each side wall of said troffer member and defining therewith an elongated air outlet, said rails defining telescopic slot means to telescopically receive the lower edges of the side walls of said vent housing when said troffer member and said vent housing are brought together.

9. The troffer assembly of claim **8** wherein a portion of the top wall of the troffer member is shaped into an upwardly pointed triangular configuration as a flow divider, said troffer member constructed and arranged to position said vent housing to cause air to flow against said flow divider, said flow divider arranged to form separate streams of air for the passages defined by said side walls.

10. A lighting and ventilating troffer assembly including an elongated troffer member and a superposed vent housing, said troffer member defining a space for bulbs and having a top wall lying over said space and a pair of downwardly extending horizontally elongated side walls, said vent housing having an air receiving chamber and a pair of downwardly extending, horizontally elongated side walls, each side wall of said vent housing spaced outwardly from one of said side walls of said troffer member and defining therewith a downward flow air passage having a horizontal air outlet, wherein the top and all sides of said air receiving chamber are defined by an upwardly stamped configuration in a sheet member that is integral with the side walls of said vent housing and lies over the top wall of said troffer member, and wherein said top wall of said troffer member comprises a pair of raised axial end portions shaped to receive on its underside a nesting ballast means, and a narrower raised axial center portion integral with said end portions and shaped to divide air flowing down thereupon and direct said air to said passages defined by said walls.

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